



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

March 24, 1994

TO: File

THRU: Daron Haddock, Permit Supervisor

FROM: Sharon Falvey, Senior Reclamation Specialist *SFF*

RE: Diversion and Culvert Amendment 93-G, Submitted February 25, 1994,  
Genwal Coal Company, Crandall Canyon Mine, ACT/015/032, Folder #2,  
Carbon County, Utah

**Subject:**

The Division received amendment 93-G on February 25, 1994. The operator has provided an amendment to address previously identified deficiencies as described in the January 27, 1994 memo. The operator proposes to re-organize portions of the memo and has revised Surface Runoff Control Plate 7-5 A, proposed designs for Culvert C-10, and re-routing of culverts C-5, C-7 and C-3. The operator has proposed routing culvert C-5 (currently routed to C-4) to ditch DD-7 and culvert C-3. The operator has removed Ditch DD-2 from the map.

**Analysis:**

The operator has revised the surface runoff Control Map Plate 7-5A. This area was recently surveyed and the map approved as a result of a violation issued in 1992. In the revision, the operator has decreased the scale of the map from 1" = 50' to 1" = 40'. The operator also increased the previously described undisturbed areas within the site by 0.05 acres and 0.01 acres. The Disturbed area boundary appears to have changed configuration, and some cross section surveys no longer applicable were re-located or removed (surveyed cross sections, such as M-M' and K-K').

Information such as the legend describing the map symbols, a north arrow and, elevation contour labels are now included on Plate 7-5 A. The submitted plate is certified.

The presented culverts and ditches are now referenced in Appendix 7-11. The operator has presented additional proposed designs for Appendix 7-7. Information contained within these two appendices is improved; however, some confusing information remains. The following should be completed for clarity and completeness:



1. Pages 12-17 are not in a logical order. It is recommended the operator place those pages in a logical order. Changing page number 12 to 15, 13 to 14, 14 to 16, 15 to 12, 16 to 17, and 17 to 13.
2. The operator has retained previous calculations which no-longer have the correct pages identified for cross references (page 11, 13, 20, 27).
3. The operator should provide outlet velocities for culverts discharging to a ditch or to the sedimentation pond.
4. Basis for CN for UD-3 could not be located.

**Recommendation:**

The operators submittal could be considered adequate for approval with the indicated changes. The major missing design deficiencies are culvert outlet velocities. No other major design flow changes were indicated to exist; therefore, the parameters used were not reviewed and are considered to be adequate. In general, it is believed the operator has exceeded the design requirements because in most cases the 10 year - 24 hour design storm used exceeds existing design requirements. The operator should be requested to update the LBA#9 submittal accordingly. The following should be requested for completion of this amendment:

1. Place Pages 12-17 in a logical order. The operator should change page number 12 to 15, 13 to 14, 14 to 16, 15 to 12, 16 to 17, and 17 to 13.
2. The operator has retained previous calculations which no-longer have the correct pages identified for cross-references. The operator should correct pages 11, 13, 20, 27.
3. The operator should provide outlet velocities for culverts discharging to a ditch, the sedimentation pond or other erosive outlet areas.
4. Provide the basis used for determining CN for UD-3.